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HOME ECONOMICS

BY ALICE P. NORTON

Assistant Professor of Home Economics of the School of Education, University
of Chicago

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IX. A DAY'S RATIONS

MRS. ABEL has a little fable in the "Rumford Kitchen Leaflets" which illustrates excellently the relation of knowledge to taste in the matter of food.

King Palate is represented as absolute ruler of a vast kingdom, paying as little heed to law as such kings are prone to do. After years of undisturbed peace enemies were discovered lurking in the kingdom, such as Indigestion, Dyspepsia, and others of their kin. The wise men of the realm tried in vain to drive these imps away. Daily they grew more powerful and more bold, until at length a young man named Knowledge appeared, who was able to hold them in check. Without pretence to the throne, or attempt at usurpation, he gave wise counsel to King Palate. This monarch did not always give heed to the counsel, but whenever he failed to do so the imps became so troublesome that he was forced to ask advice. At last Knowledge was made Prime Minister, and King and Minister, working together, succeeded in subduing the enemies, with a fair prospect of soon driving them from the kingdom altogether.

Now, it is quite true, as the king in the story said, that Knowledge is "always weighing and considering," and has "even been known to change his mind," but we can no longer afford to live without such help. Experimental science, building upon the experience of the ages, is giving us the means of solving many a difficult problem, and is making possible healthier, happier life than was within our reach before.

One of the many perplexing questions in regard to food is the amount necessary to supply our daily needs under different conditions of age, climate, and activity. This amount constitutes what is called a standard dietary. These dietaries are sometimes called experimental, or statistical, according to the method used in formulating them. An experimental dietary is the result of careful observations under determined conditions of the effect of different proportions of food nutrients upon the individual. The statistical dietary is the outcome of the study of the actual ration of large numbers of people.

Each of these has its drawbacks. In the first case it is difficult to decide how far the result is due to individual idiosyncrasy, and a large

number of experiments must be tried before the personal factor can be eliminated. In the second case it is hard to determine whether some variation in the diet might not produce better results. From a careful comparison of dietaries made up in these two ways certain standards have been determined upon. The American standards vary in some important points, notably in the amount of fat used, from those of Europe. Some of these dietaries are given here:

STANDARD DIETARIES.

Voit.

	Proteid, grammes.	Fat, grammes.	Carbohydrate grammes.	Total grammes.	Calories.
Woman at moderate work (German).....	92	44	400	536	2425
Man at moderate work (German).....	118	56	500	674	3055
Man at hard work (German).....	145	100	450	695	3370

Playfair.

Man with moderate exercise (English).....	119	51	531	701	3140
Active laborer (English).....	156	71	568	795	3630
Hard-worked laborer (English).....	185	71	568	824	3750

Atwater.

Woman with light exercise (American).....	80	80	300	460	2300
Man with light exercise (American).....	100	100	360	560	2815
Man at moderate work (American).....	125	125	450	700	3520
Man at hard work (American).....	150	150	500	800	4060

There are twenty-eight and thirty-four hundredths grammes (28.34) in one ounce. A man at moderate work requires, therefore, according to the American standard, about four and one-half ounces of proteid, four and one-half ounces of fat, and nearly a pound of carbohydrate daily.

If meat be supplied containing eighteen per cent. of proteid (a fair average), a little more than a pound and a half will be required to furnish the necessary proteid, provided it is all obtained from the meat. Bread contains about nine per cent. of proteid, and it would require three pounds to furnish the same amount yielded by the pound and a half of meat. Nearly two pounds and a half of eggs (13.1 per cent. proteid), or about twenty, would be required to give the same amount of proteid as the pound and a half of meat or the three pounds of bread.

The three pounds of bread would furnish also more than a pound and a half of carbohydrates, a great excess over the required amount.

The meat would vary in fat, but, estimating the per cent. as twenty,

the pound and a half would yield four and eight-tenths ounces (4.8)—more than would be required for the day.

The quantities used of these different foods must be so adjusted that the nutrients will be in approximately the right proportions. The amounts given below include only a few of the most common foods, but they serve to show the method of calculation of the dietary, and to afford a basis of comparison for more elaborate menus. The composition of the various foods is taken from Professor Atwater's tables :

COMPOSITION OF SOME COMMON FOODS.

	Proteid, ounces.	Fat, ounces.	Carbohydrate, ounces.	Calories.
Beef (loin)	18.5	20.2	..	1190
Bread	9.1	1.6	53.3	1225
Potatoes	1.8	.1	14.7	310
Oatmeal	16.1	7.2	67.5	1860
Rice	8.	.3	79.	1630
Milk	3.3	4.	5.	325
Sugar	100.	1860
Butter	1.	85.	..	3605

Assuming the composition of the food used to be that of the given analyses, the amounts in the following table would yield very nearly the required amount of proteid, carbohydrate, and fat, and the requisite number of calories :

	Proteid, ounces.	Fat, ounces.	Carbohydrates, ounces.	Calories.
Meat, three-fourths pound.....	2.22	2.4	..	918
Bread, one pound.....	1.46	.26	8.52	1225
Potatoes, one pound (two large potatoes) ..	.31	.01	2.35	310
Oatmeal, one ounce.....	.16	.07	.68	116
Rice, two ounces.....	.16	..	1.58	204
Milk, one-half pound (one cup).....	.26	.32	.4	163
Sugar, two and one-half ounces.....	2.5	290
Butter, one and one-half ounces.....	.01	1.28	..	338
Totals	4.58	4.34	16.03	3564

(To be continued.)

